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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,770	04/14/2004	Mineo Koyama	100725-00123	4709
4372	7590	12/22/2008		
ARENT FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER KRAUSE, JUSTIN MITCHELL	
			ART UNIT 3656	PAPER NUMBER
			NOTIFICATION DATE 12/22/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
IPMatters@arentfox.com  
Patent\_Mail@arentfox.com

# Office Action Summary

## Application No.

10/823,770

## Applicant(s)

KOYAMA ET AL.

## Examiner

JUSTIN KRAUSE

## Art Unit

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 4/3/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "wherein each column is provided with a pair of tongues extending radially away from a base that is parallel to a corresponding annulus from the pair of annuluses and toward the corresponding annulus" in claims 1 and 6 is indefinite because the arrangement of the base with respect to the corresponding annulus is unclear. If the base is parallel to the corresponding annulus and toward the corresponding annulus, it is unclear what arrangement is being recited. By being parallel to the corresponding annulus, then it is unclear how the base can extend toward the corresponding annulus as well, because parallel is defined as "everywhere equidistant" (definition from Merriam-Webster's Collegiate Dictionary, 10th edition).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-15, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui (US 2003/0068110) in view of Bower (US Patent 1,170,733).

Matsui discloses a bearing having a resin cage with a plurality of cylindrical rollers, the dimensions of the radii of the corners of the cage pockets ( $r$ ), the minimum dimension of the inner diameter side of the annulus ( $d$ ), and the thickness of the column ( $t$ ) are defined by a function (paragraph 0061), and the stress concentration is variable dependent on the size of the roller and the variables  $r$ ,  $d$ , and  $t$ . Combinations of variables which satisfy the relationships of Matsui, also satisfy the claimed relationships between  $r$ ,  $k_1$ ,  $k_2$ ,  $r_1$ ,  $w_5$ ,  $Z$  and  $\Phi d_1$ .

Matsui does not disclose a pair of tongues extending radially away from a base, each tongue of the pair being connected to a relatively planar bottom surface disposed between the pair of tongues by an arcuate surface disposed between each tongue and end of the relatively planar surface.

Bower teaches a pair of tongues (Fig 2) extending radially away from a base (K) which is parallel to a corresponding annulus (J) and toward the corresponding annulus (As best understood, this limitation is interpreted as the base has a width and a circumferential length. The base is parallel to the corresponding annulus in the circumferential length direction, and toward the corresponding annulus in the width

direction, from one annulus to the other) for the purpose of spacing and retaining the rolling members. (Page 2, lines 10-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Matsui to include tongues for the desired purpose of spacing and retaining the rollers as taught by Bower.

Regarding claims 10 and 13, Matsui discloses raised contact surfaces on the end surface.

Regarding claims 11 and 14, Bower discloses the guide surface as claimed (fig 2).

Regarding claims 12 and 15, the inner lateral surfaces of each tongue are connected by a bottom surface on an outer surface of the base (fig 2).

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murai (US Patent 6,955,476) in view of Bower.

Murai discloses a bearing having a resin cage with a plurality of cylindrical rollers and states that the radius of curvature of the corners of the pockets can be modified and formed into any suitable configuration which can relax the stress generated from the contact of the rolling element and improve lubricating conditions (col 4, lines 27-33). Murai additionally discloses that the minimum width of the side plate at the recess should be set as large as possible to increase its strength (Col 4, lines 61-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Murai and optimize the relationships between  $r$ ,  $L_w$ ,  $k_1$ ,

k2, r1, w5, Z and  $\Phi d1$  through routine experimentation, to achieve the desired stress concentration levels for the intended use and functionality of the resin retainer.

Murai does not disclose a pair of tongues extending radially away from a base, each tongue of the pair being connected to a relatively planar bottom surface disposed between the pair of tongues by an arcuate surface disposed between each tongue and end of the relatively planar surface.

Bower teaches a pair of tongues (Fig 2) extending radially away from a base (K) which is parallel to a corresponding annulus (J) and toward the corresponding annulus (As best understood, this limitation is interpreted as the base has a width and a circumferential length. The base is parallel to the corresponding annulus in the circumferential length direction, and toward the corresponding annulus in the width direction, from one annulus to the other) for the purpose of spacing and retaining the rolling members. (Page 2, lines 10-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Matsui to include tongues for the desired purpose of spacing and retaining the rollers as taught by Bower.

Regarding claims 10 and 13, both Murai discloses raised contact surfaces on the end surface.

Regarding claims 11 and 14, Bower discloses the guide surface as claimed (fig 2).

Regarding claims 12 and 15, the inner lateral surfaces of each tongue are connected by a bottom surface on an outer surface of the base (fig 2).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-15 have been considered but are not persuasive.

In view of the indefinite language presented by applicant's amendment, the claims have been examined to the extent they are best understood. As discussed above, the combinations above including the tongue structure of Bower are deemed readable on the claims as presently presented. The tongues extend from a base (K) which satisfies the orientation relationship as best as it is understood. Even if the limitation were interpreted to relate to the pair of tongues (i.e. the pair of tongues extend radially away from a base and toward the corresponding annulus), it is the examiner's position that the structure of Bower satisfies this reading as well. The tongues have a width between the pair of annuluses (J) and accordingly, the tongues extend toward the corresponding annulus.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin Krause/  
Examiner, Art Unit 3656

/Richard WL Ridley/  
Supervisory Patent Examiner, Art Unit 3656